

## CLAIMS

1. A green phosphor to form a phosphorus layer of a plasma display panel, wherein the green phosphor is composed of  
5  $\text{Zn}_2\text{SiO}_4\text{:Mn}$  phosphor,  $(\text{Y}, \text{Gd})\text{BO}_3\text{:Tb}$  phosphor and  $\text{BaAl}_{12}\text{O}_{19}\text{:Mn}$  phosphor, and the mixing rate of  $\text{BaAl}_{12}\text{O}_{19}\text{:Mn}$  phosphor to the total weight is 1~25 wt%.
2. A green phosphor to form a phosphorus layer of a plasma  
10 display panel, wherein the green phosphor is composed of  $\text{Zn}_2\text{SiO}_4\text{:Mn}$  phosphor,  $(\text{Y}, \text{Gd})\text{BO}_3\text{:Tb}$  phosphor and  $\text{BaAl}_{12}\text{O}_{19}\text{:Mn}$  phosphor, and the mixing rate of the  $(\text{Y}, \text{Gd})\text{BO}_3\text{:Tb}$  phosphor to the  $\text{Zn}_2\text{SiO}_4\text{:Mn}$  phosphor is 25~80 wt%.
- 15 3. The green phosphor according to claim 2, wherein the mixing rate of the  $\text{BaAl}_{12}\text{O}_{19}\text{:Mn}$  phosphor to the total weight of the green phosphor is 1~25 wt%.
4. A plasma display panel, comprising:  
20 a plurality of electrodes arranged with having a first and a second sustain electrode form a pair on an upper substrate;  
a plurality of data electrodes arranged on a lower substrate to cross the electrodes;  
a plurality of barrier ribs arranged in parallel to the

data electrodes with a designated gap to form a discharge space between the upper substrate and the lower substrate; and

a plurality of phosphorus layers having a red phosphorus layer, a green phosphorus layer and a blue phosphorus layer which  
5 are formed along the inner wall of the barrier ribs,  
and

wherein the green phosphorus layer is made of  $\text{Zn}_2\text{SiO}_4\text{:Mn}$  phosphor,  $(\text{Y, Gd})\text{BO}_3\text{:Tb}$  phosphor and  $\text{BaAl}_{12}\text{O}_{19}\text{:Mn}$  phosphor, and the mixing rate of  $\text{BaAl}_{12}\text{O}_{19}\text{:Mn}$  phosphor to the total weight  
10 is 1~25 wt%.

5. A plasma display panel, comprising:

a plurality of electrodes arranged with having a first and a second sustain electrode form a pair on an upper substrate;

15 a plurality of data electrodes arranged on a lower substrate to cross the electrodes;

a plurality of barrier ribs arranged in parallel to the data electrodes with a designated gap to form a discharge space between the upper substrate and the lower substrate; and

20 a plurality of phosphorus layers having a red phosphorus layer, a green phosphorus layer and a blue phosphorus layer which are formed along the inner wall of the barrier ribs,  
and

wherein the green phosphorus layer is made of  $\text{Zn}_2\text{SiO}_4\text{:Mn}$

phosphor, (Y, Gd)BO<sub>3</sub>:Tb phosphor and BaAl<sub>12</sub>O<sub>19</sub>:Mn phosphor, and the mixing rate of the (Y, Gd)BO<sub>3</sub>:Tb phosphor to the Zn<sub>2</sub>SiO<sub>4</sub>:Mn phosphor is 25~80 wt%.

5 6. The plasma display panel according to claim 5, wherein the mixing rate of the BaAl<sub>12</sub>O<sub>19</sub>:Mn phosphor to the total weight of the green phosphorus layer is 1~25 wt%.

7. A green phosphor to form a phosphorus layer of a plasma  
10 display panel, wherein the green phosphor includes a mixed phosphor composed of a first class phosphor of Zn<sub>2</sub>SiO<sub>4</sub>:Mn, a second class phosphor of at least one of LaPO<sub>4</sub>:Tb, Y<sub>3</sub>Al<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub>Tb, Y(Al, Ga)<sub>5</sub>O<sub>12</sub>:Tb, YBO<sub>3</sub>:Tb, (Y, Gd)BO<sub>3</sub>:Tb, and a third class phosphor of at least one of BaAl<sub>12</sub>O<sub>19</sub>:Mn, BaAl<sub>14</sub>O<sub>23</sub>:Mn,  
15 Ba(Sr, Ma)AlO:Mn, and the mixing rate of the third class phosphor to the total weight of the mixed phosphor is 1~25 wt%.

8. A green phosphor to form a phosphorus layer of a plasma display panel, wherein the green phosphor includes a mixed  
20 phosphor composed of a first class phosphor of Zn<sub>2</sub>SiO<sub>4</sub>:Mn, a second class phosphor of at least one of LaPO<sub>4</sub>:Tb, Y<sub>3</sub>Al<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub>Tb, Y(Al, Ga)<sub>5</sub>O<sub>12</sub>:Tb, YBO<sub>3</sub>:Tb, (Y, Gd)BO<sub>3</sub>:Tb, and a third class phosphor of at least one of BaAl<sub>12</sub>O<sub>19</sub>:Mn, BaAl<sub>14</sub>O<sub>23</sub>:Mn, Ba(Sr, Ma)AlO:Mn, and the mixing rate of the second class phosphor

to the first class phosphor is 25~80 wt%.

9. The green phosphor according to claim 8, wherein the mixing rate of the third class phosphor to the total weight of the mixed phosphor is 1~25 wt%.

10. A green phosphor to form a phosphorus layer of a plasma display panel, wherein a BAM group phosphor of at least one of  $\text{BaAl}_{12}\text{O}_{19}:\text{Mn}$ ,  $\text{BaAl}_{14}\text{O}_{23}:\text{Mn}$ ,  $\text{Ba}(\text{Sr},\text{Ma})\text{AlO}:\text{Mn}$  is mixed with at least one type of phosphor that has a different composition from the BAM group phosphor, and the mixing rate of the BAM group phosphor to the total weight is 1~25 wt%.

11. A green phosphor to form a phosphorus layer of a plasma display panel, wherein the green phosphor includes a mixed phosphor in which a first class phosphor of  $\text{Zn}_2\text{SiO}_4:\text{Mn}$  is mixed with a second class phosphor of at least one of  $\text{LaPO}_4:\text{Tb}$ ,  $\text{Y}_3\text{Al}_3(\text{BO}_3)_4\text{Tb}$ ,  $\text{Y}(\text{Al}, \text{Ga})_5\text{O}_{12}:\text{Tb}$ ,  $\text{YBO}_3:\text{Tb}$ ,  $(\text{Y}, \text{Gd})\text{BO}_3:\text{Tb}$ , and the mixing rate of the second phosphor to the first class phosphor is 25~80 wt%.

12. The green phosphor according to claim 11, wherein the mixed phosphor further includes a third class phosphor of at least one of  $\text{BaAl}_{12}\text{O}_{19}:\text{Mn}$ ,  $\text{BaAl}_{14}\text{O}_{23}:\text{Mn}$ ,  $\text{Ba}(\text{Sr},\text{Ma})\text{AlO}:\text{Mn}$ .

13. A plasma display panel, comprising:

a plurality of electrodes arranged with having a first and a second sustain electrode form a pair on an upper substrate;

5 a plurality of data electrodes arranged on a lower substrate to cross the electrodes;

a plurality of barrier ribs arranged in parallel to the data electrodes with a designated gap to form a discharge space between the upper substrate and the lower substrate; and

10 a plurality of phosphorus layers having a red phosphorus layer, a green phosphorus layer and a blue phosphorus layer which are formed along the inner wall of the barrier ribs,

and

wherein the green phosphorus layer is composed of a first  
15 class phosphor of  $\text{Zn}_2\text{SiO}_4:\text{Mn}$ , a second class phosphor of at least one of  $\text{LaPO}_4:\text{Tb}$ ,  $\text{Y}_3\text{Al}_3(\text{BO}_3)_4\text{Tb}$ ,  $\text{Y}(\text{Al}, \text{Ga})_5\text{O}_{12}:\text{Tb}$ ,  $\text{YBO}_3:\text{Tb}$ ,  $(\text{Y}, \text{Gd})\text{BO}_3:\text{Tb}$ , and a third class phosphor of at least one of  $\text{BaAl}_{12}\text{O}_{19}:\text{Mn}$ ,  $\text{BaAl}_{14}\text{O}_{23}:\text{Mn}$ ,  $\text{Ba}(\text{Sr}, \text{Ma})\text{AlO}:\text{Mn}$ , and the mixing rate of the third class phosphor to the total weight is 1~25  
20 wt%.

14. A plasma display panel, comprising:

a plurality of electrodes arranged with having a first and a second sustain electrode form a pair on an upper substrate;

a plurality of data electrodes arranged on a lower substrate to cross the electrodes;

a plurality of barrier ribs arranged in parallel to the data electrodes with a designated gap to form a discharge space  
5 between the upper substrate and the lower substrate; and

a plurality of phosphorus layers having a red phosphorus layer, a green phosphorus layer and a blue phosphorus layer which are formed along the inner wall of the barrier ribs,

and

10 wherein the green phosphorus layer is composed of a first class phosphor of  $\text{Zn}_2\text{SiO}_4\text{:Mn}$ , a second class phosphor of at least one of  $\text{LaPO}_4\text{:Tb}$ ,  $\text{Y}_3\text{Al}_3(\text{BO}_3)_4\text{Tb}$ ,  $\text{Y}(\text{Al}, \text{Ga})_5\text{O}_{12}\text{:Tb}$ ,  $\text{YBO}_3\text{:Tb}$ ,  $(\text{Y}, \text{Gd})\text{BO}_3\text{:Tb}$ , and a third class phosphor of at least one of  $\text{BaAl}_{12}\text{O}_{19}\text{:Mn}$ ,  $\text{BaAl}_{14}\text{O}_{23}\text{:Mn}$ ,  $\text{Ba}(\text{Sr}, \text{Ma})\text{AlO:Mn}$ , and the mixing  
15 rate of the second class phosphor to the first class phosphor is 25~80 wt%.

15. The plasma display panel according to claim 14, wherein the mixing rate of the third class phosphor to the total weight  
20 of the green phosphorus layer is 1~25 wt%.